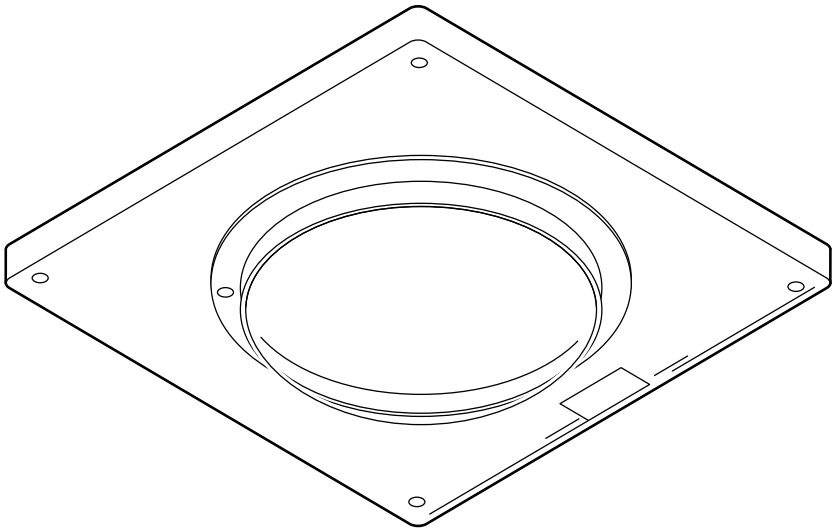
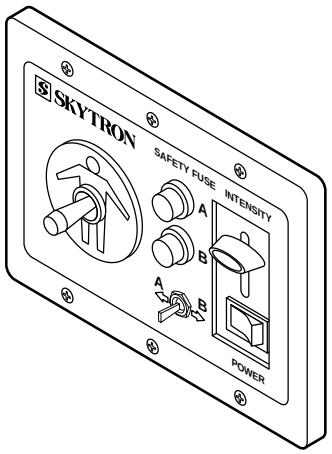
SKYTRON

INSTALLATION INSTRUCTIONS





EX100CL REMOTE CONTROLLED
SURGICAL LIGHT

MARCH 2005

INSTALLATION NOTES

•To avoid damage to the positioning motors, DO NOT move the light assembly within the enclosure box.

•The wall control should be located so that the operator will have an unobstructed view of the table for properly positioning the light beam.

•For proper control switch indexing the light fixture label "EX-100CL" must be lined up with the table center line and toward the head end of the table.

•Dual light fixture installation requires 14 color coded 20AWG wires from wall control (7 wires per fixture). Two conduit runs may be necessary (Contractor Supplied). See figure 3.

To prevent damage to the light fixture the following minimum clearances must be maintained:

1. Centers of adjacent (two or more) fixtures: 3 feet

2. Top of fixture and overhead building member: 5 inches.

3. Fixture center to side wall: 1-1/2 feet.

⚠ WARNING ⚠

Risk of FIRE. DO NOT install insulation within 3 inches of fixture sides nor above fixture in such a manner to entrap heat.

Installation Procedure - Refer to specific seismic calculations if required.

a. Ensure that the 1/2" diameter threaded rod is secured to the structural ceiling and centered within the square opening in the finished ceiling. See figure 1.

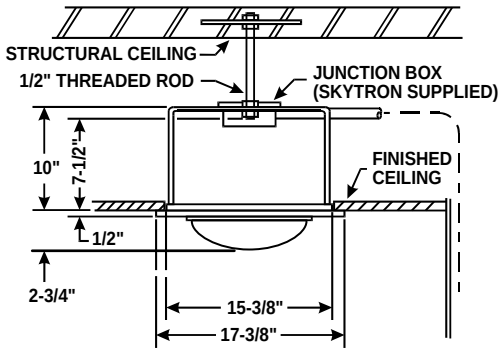


Figure 1. Mounting Structure

b. Remove the four screws, washers, and plastic washers from the front face of the fixture and remove the mounting bracket. See figure 2.

c. Install the mounting bracket into the ceiling and secure it to the threaded rod using two jam nuts.

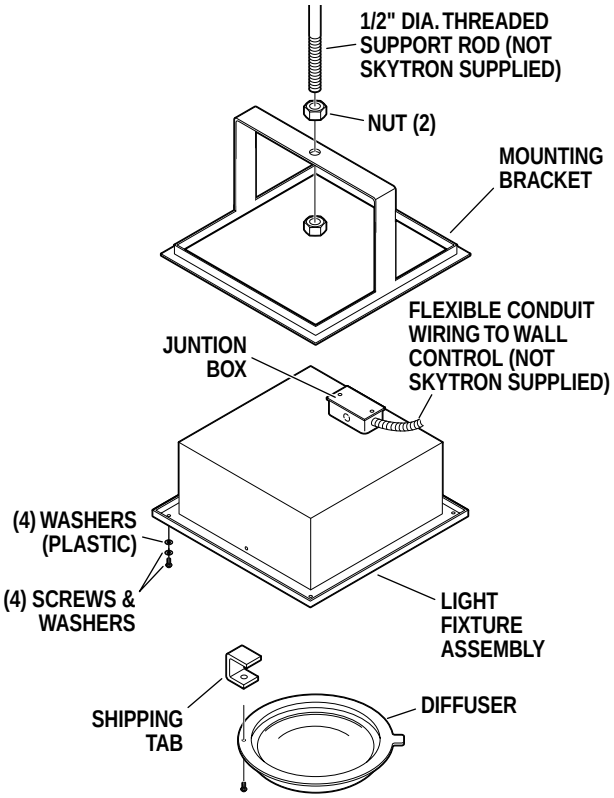


Figure 2. Installation

NOTE

Dual light fixture installation requires 14 color coded 20AWG wires from wall control (7 wires per fixture). Two conduit runs may be necessary. Refer to figure 3 (Contractor Supplied).

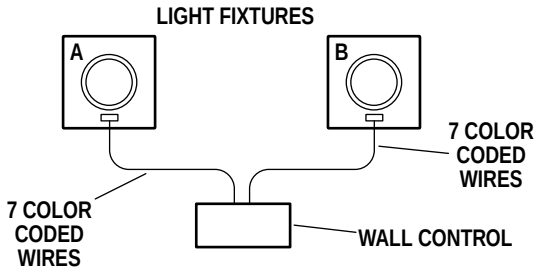


Figure 3. Dual Light Fixture Installation

d. Observe wire color codes and using wire nuts, connect the wiring from wall control to the wires in the fixture junction box.

NOTE

For proper control switch indexing, the light fixture label "EX-100CL" must be lined up with the table center line and toward the head end of the table. See figure 4.

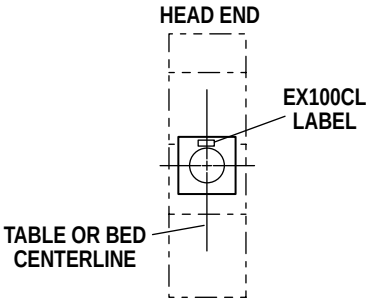


Figure 4.

e. Install the light fixture into the mounting bracket and secure with the four (4) screws, washers, and plastic washers removed previously (figure 2).

f. Remove the diffuser mounting screw, remove the shipping tab, and reinstall the screw.

g. For dual light fixture installation, apply "A" and "B" labels to fixture front face where visible by the wall control operator for switch orientation. See figure 5.

Figure 5.

NOTE

The wall control should be located so that the operator will have an unobstructed view of the table for properly positioning the light beam.

h. Remove the (6) screws securing the mounting bracket to the wall control and disconnect the mounting bracket and intensity switch assembly. See figure 6. Remove the nuts and screws securing the dimmer switch to the bracket and discard the nuts and screws.

i. Observe wire tags and color codes and connect the wiring from the fixture(s) to the wall control using wire nuts.

j. For dual light fixture installation, connect wire group "A" to light fixture "A" and "B" to "B". For single light fixture installation, use wire group "A". Wire group "B" can be cut and removed.

k. Install the intensity switch and mounting bracket to the switch box using the six (6) #6-32 screws as shown in figure 6.

l. Install the wall control and secure with the screws previously removed.

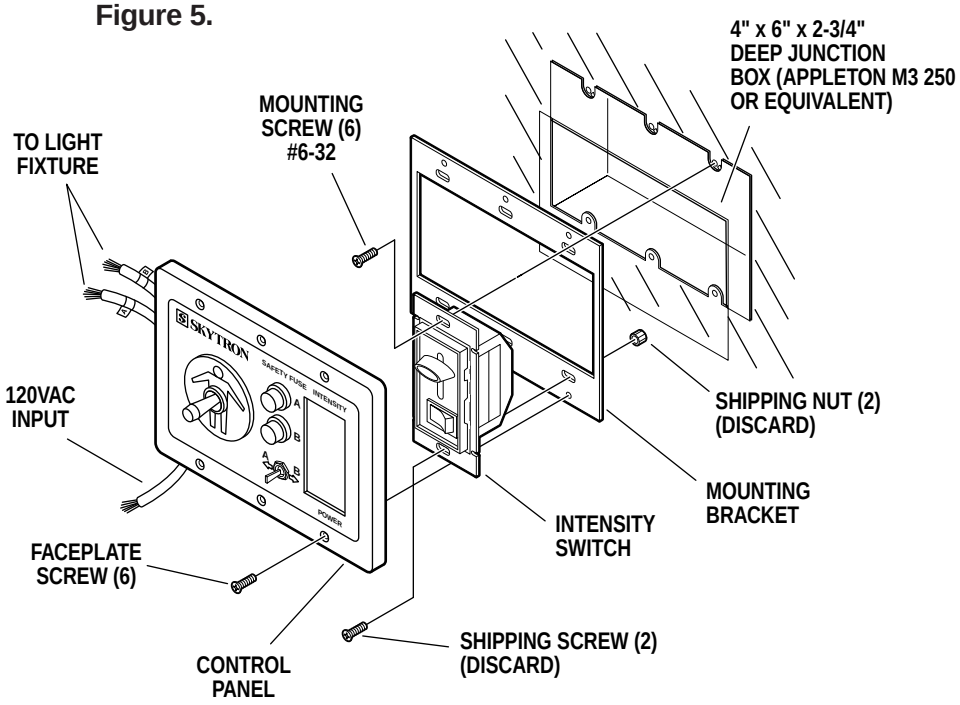
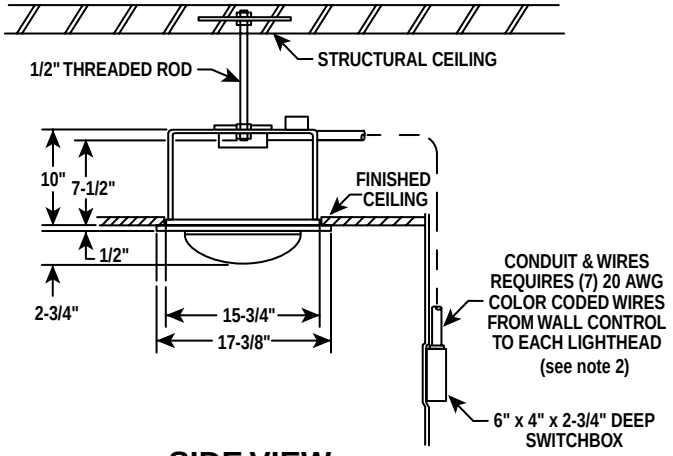
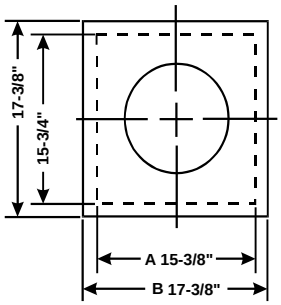


Figure 6.

MOUNTING GUIDELINE DETAILS

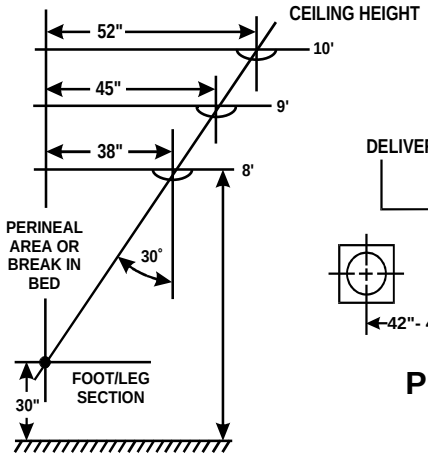


SIDE VIEW

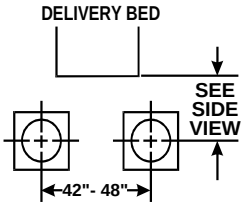


A - CEILING OPENING
B - CEILING COVER

PLAN VIEW



SIDE VIEW



PLAN VIEW

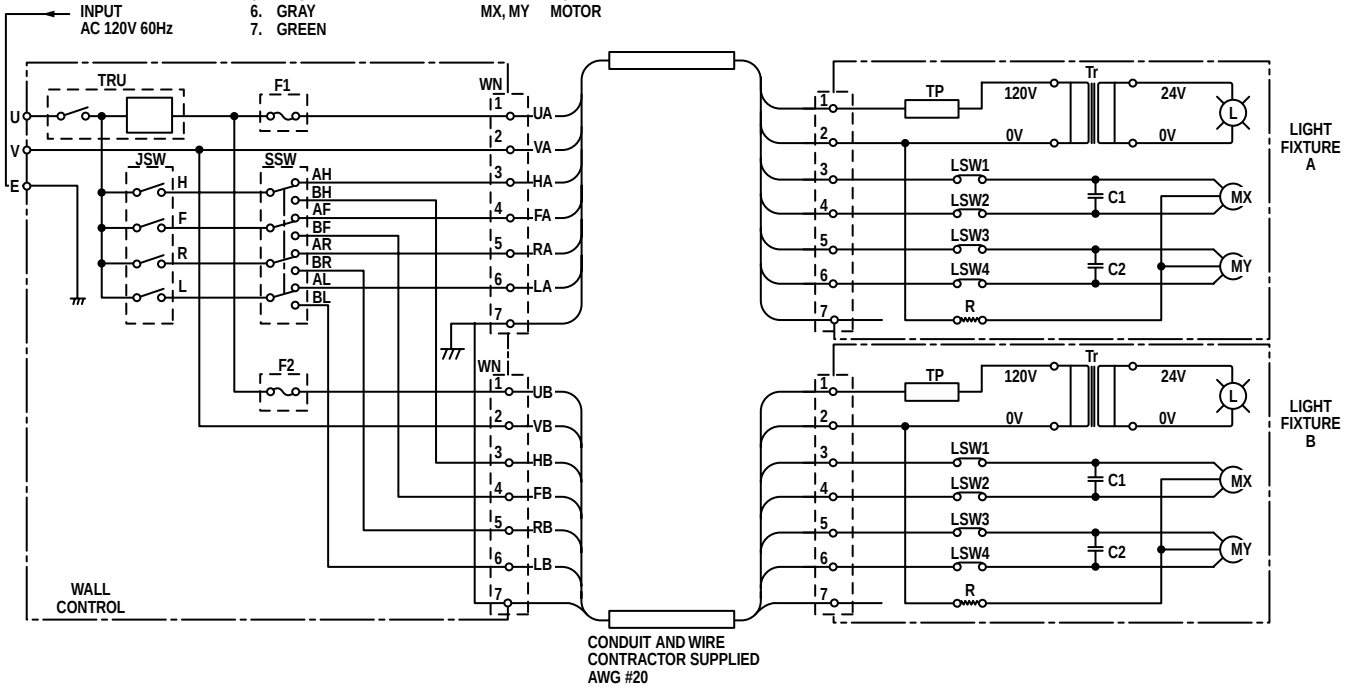
Refer to specific seismic calculations where required.

NOTES:

1. 1/2" diameter support rod centered in fixture opening for total support of light. All labor and materials for fabrication, 1/2" nuts and washers (two each required) for fixture attachment, contractor supplied.
2. Lighthead mounted junction box for wire connections supplied by SKYTRON. All wiring, conduit, wall control mounting box and other electrical materials as well as installation labor for the SKYTRON light fixture to be provided by electrical contractor. All installations of SKYTRON lighting fixtures should be under the direct supervision of a SKYTRON representative.
3. All wiring to be in accordance with local codes. 120 VAC isolated power supply required for SKYTRON wall control. Wall control requires 2-3/4" deep 4" x 6" triple switch box (Appleton M3-250 or equivalent), conduit as required and seven 20 gauge color coded wires per lighthead. Fixtures used in conjunction with isolated power supplies require the appropriate low leakage conductors provided by others.

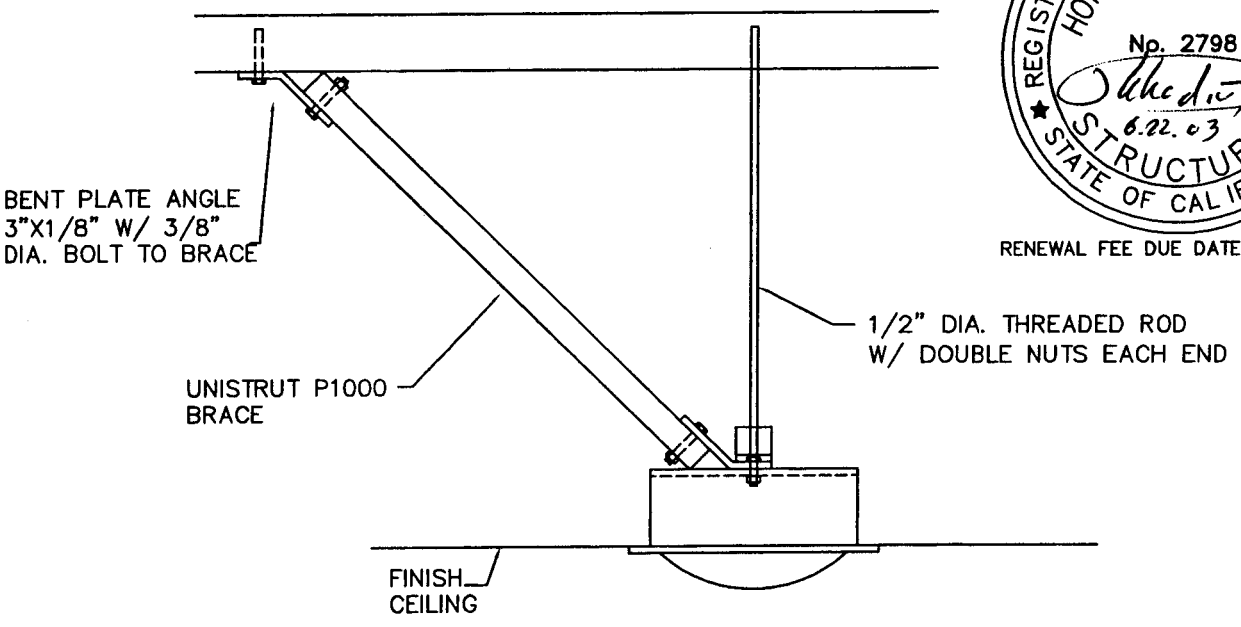
BIRTHING ROOM APPLICATION

COLOR CODE		TP	THERMAL PROTECTION	TRU	INTENSITY SWITCH
1.	BLACK	Tr	TRANSFORMER	F1, 2	FUSE
2.	BLUE	LSW1-4	LIMIT SWITCH	JSW	JOYSTICK SWITCH
3.	YELLOW	C1, 2	CAPACITOR	SSW	SELECT SWITCH
4.	WHITE	R	RESISTOR		
5.	BROWN	L	BULB		
6.	GRAY	MX, MY	MOTOR		
7.	GREEN				



FIROUZI CONSULTING ENGINEER, INC.		
SKYTRON SURGICAL PRODUCTS	DES.	SHEET
EXCEL SERIES - EX100W FOR SEISMIC ZONE (4), SOIL PROFILE (Sd) NEAR SOURCE FACTOR = 1.5	FCE JOB No. DATE: 6-21-03	1 OF 3 SHEETS

SEISMIC ANCHORING BOLT DESIGN
EXCEL SERIES - EX100W



ELEVATION

REGISTERED PROFESSIONAL ENGINEER
HOMAYOUN J. KHADVI
No. 2798
6.22.03
STRUCTURAL
STATE OF CALIFORNIA

RENEWAL FEE DUE DATE: 06-30-06

NOTES:

1. SCOPE OF WORK: DESIGN OF BOLTS CONNECTING MOUNTING PLATE TO STRUCTURE ONLY.
2. FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE – SECTION 1632A, (INCLUDING UP TO DATE REVISIONS) AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE
3. FORCES ARE MAXIMUMS AND OCCUR WHEN EQUIPMENT IS MOVED TO ITS MOST ECCENTRIC POSITION.
4. PROVIDE CEILING STRUCTURE DESIGNED AND DETAILS TO SUPPORT WEIGHTS AND FORCES SHOWN (BY ENGINEER OF RECORD FOR THE BUILDING)
5. ENGIINEER OF RECORD TO DESIGN, DETAIL AND VERIFY STRUCTURE AND/ OR EXISTING LIGHT SUPPORT TRACTS TO SUPPORT INDICATED LOADS
6. HORIZONTAL FORCES AND MOMENT MAY OCCUR IN ANY DIRECTION, ACTING AT THE TOP OF MOUNTING PLATE.

FIROUZI CONSULTING ENGINEER, INC.		
SKYTRON SURGICAL PRODUCTS	DES.	SHEET
EXCEL SERIES - EX100W FOR SEISMIC ZONE (4), SOIL PROFILE (Sd) NEAR SOURCE FACTOR = 1.5	FCE JOB No. DATE: 6-21-03	2 OF 3 SHEETS

DESIGN CRITERIA:

FORMULA 32A-1: $F_P = 4.0\ Ca*Ip*Wp$

TABLE 16A-Q : $Ca = 0.44*Na = 0.44*1.5 = 0.66$ (For zone 4 & S_D)

TABLE 16A-K : Ia = 1.5 (For essential facility)

$\therefore F_P = (4.0)(0.66)(1.5)Wp = 3.96\ Wp$ (For LRFD)

$F_P = 3.96Wp/1.4 = 2.83Wp$ (For ASD)

FORMULA 30A-1: $E = p*E_h + E_v$

$E_h = F_P$

p = 1.0 (FOR COMPONENT)

$E_v = (0.5)Ca*Ip*Wp$

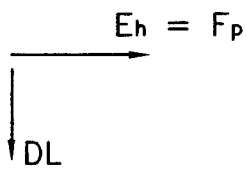
$= (0.5)(0.66)(1.5)Wp = 0.5Wp$ (For LRFD)

$= 0$ (For ASD)

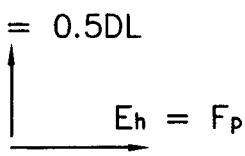
SECTION 1630A.11: $E_v = (0.7)Ca*I*Wp$

$= (0.7)(0.66)(1.5)/1.4 = 0.5Wp$ (For ASD) [NET UPLIFT FORCE]

LOAD COMBINATION CASE A



LOAD COMBINATION CASE B



BY COMPARISION LOAD, COMBINATION A GOVERNS

FIROUZI CONSULTING ENGINEER, INC.		
SKYTRON SURGICAL PRODUCTS	DES.	SHEET
EXCEL SERIES - EX100W FOR SEISMIC ZONE (4), SOIL PROFILE (Sd) NEAR SOURCE FACTOR = 1.5	FCE JOB No. DATE: 6-21-03	3 OF 3 SHEETS

Wt = 30 #
Ve = 0.50 x 30 = 14.9 #
He = 2.83 x 30 = 84.9 #

SHEAR: S = 84.9 / 1 = 84.9 #
TENSION: t = (30 + 14.9)/ 1 = 44.9 #

CHECK 1/2" DIA. A307 THREADED ROD:

ALLOWABLE TENSION: 3000#
ALLOWABLE SHEAR: 2000#

fv/Fv + ft/Ft = 0.04 + 0.02 = 0.06 < 1.0 OK

USE 1/2" DIA. THREADED ROD

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